



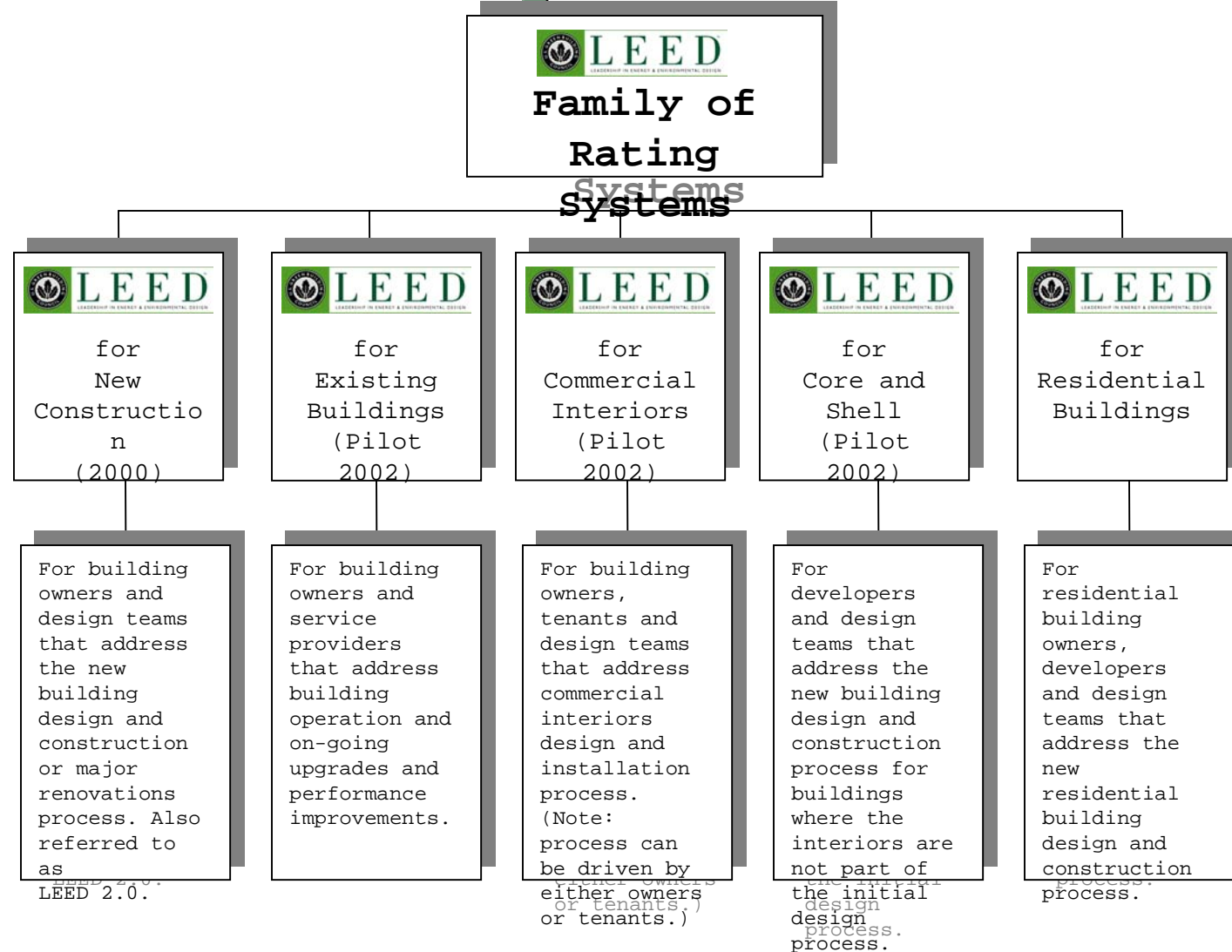
# LEED™ Building Rating System

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# The Growing Family of LEED™ Building Rating Systems





# LEED™ for New Buildings

## ■ Addresses:

- The Design and Construction of New Buildings and Major Building Renovations

## ■ Initiated:

- 2000

## ■ Achievements:

- 25+ Certified Projects
- 600+ Registered Projects
- 65+ Million gross square feet of floor space
- Projects in 40+ states and 6+ countries

## ■ Range of Users:

- Federal Government, State Government, Local Government, Schools, Colleges and Universities, Schools, Commercial Buildings, in Many Countries



# LEED™ for Existing Buildings

- Addresses:
  - The Operation and Upgrades of Existing Buildings
- Pilot
  - January 2002 – November 2003
- Achievements:
  - More than 65 projects in Pilot
- Range of Users:
  - Federal Government, State Government, Local Government, Schools, Colleges and Universities, Schools, Commercial Buildings



# LEED™ for Commercial Interiors

- Addresses:

- The Design and Construction of Interiors in existing Buildings and Tenant Fit-outs in new core and shell buildings

- Launched:

- Initiated in 2002

- Participant participants

- 30+





# LEED™ for Core and Shell of Buildings

## ■ Addresses:

- The Design and Construction of the Core and Shell of New Buildings. For developers who develop the core and shell of the building and the future occupants are responsible for fit-out the interiors

## ■ Launched:

- Pilot will start in late 2002



# LEED™ for Residential Buildings (Homes)

- Addresses:
  - The Design and Construction of Residential Buildings, including single family and multifamily building interiors
- Status:
  - Under development



# LEED™ for Existing Buildings Rating System

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# LEED for Existing Buildings



Addresses:

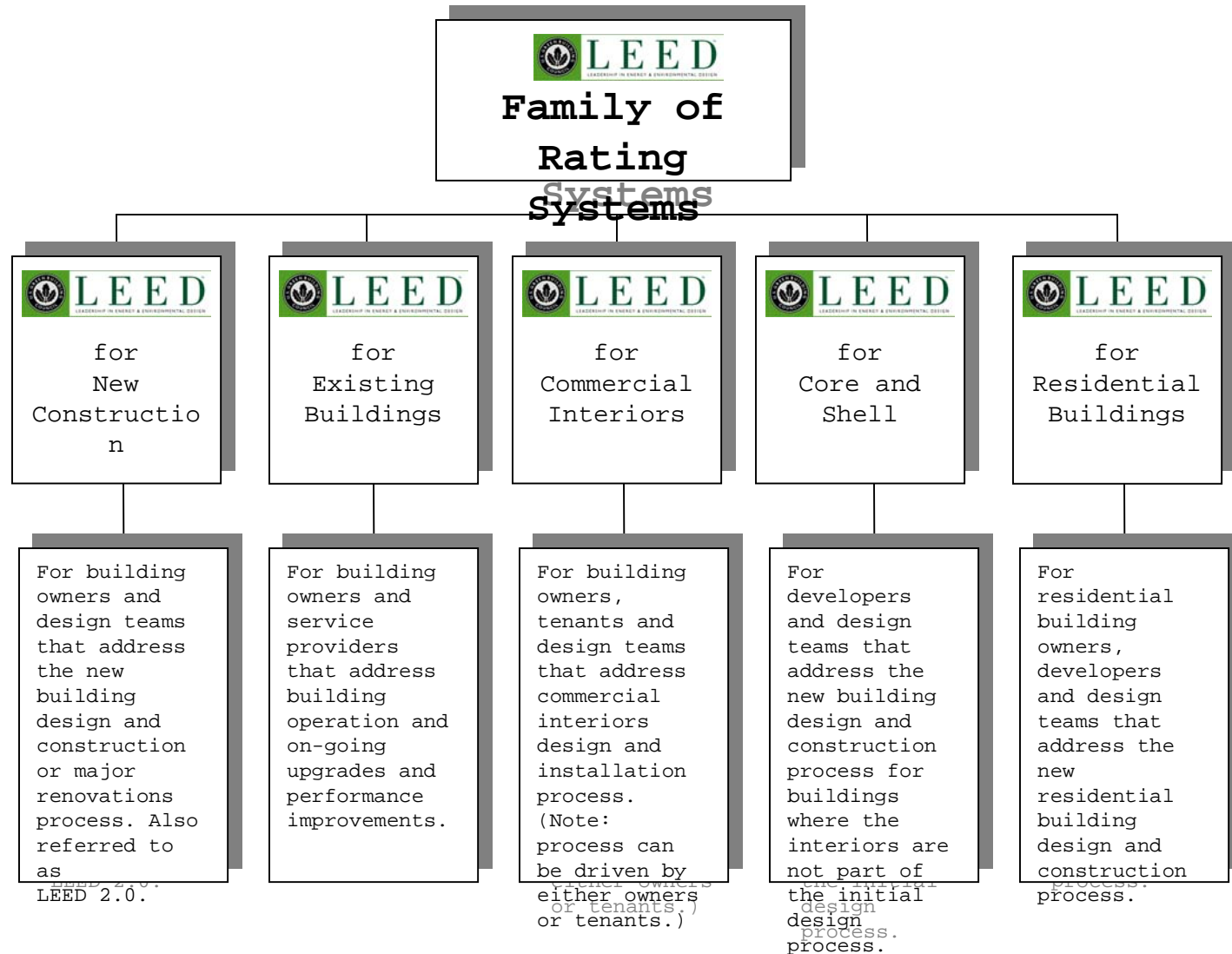
Existing Building

Upgrades  
&  
Operation

Initial  
Certification  
&  
Ongoing Re-  
certification



# LEED EB is 2nd Rating System in the LEED Family





# Why LEED for Existing Buildings is So Important

- Environmental Impacts of Existing Buildings:
  - Commercial, institutional, and residential buildings and operations account for:
    - 65.2% of electricity consumption
    - 36% of total primary energy use
    - 30% of total greenhouse gas emissions
    - 12% of potable water
  - Plus the Impacts of:
    - Cleaning
    - Grounds keeping
    - Purchases
    - Refuse
    - Indoor environmental quality

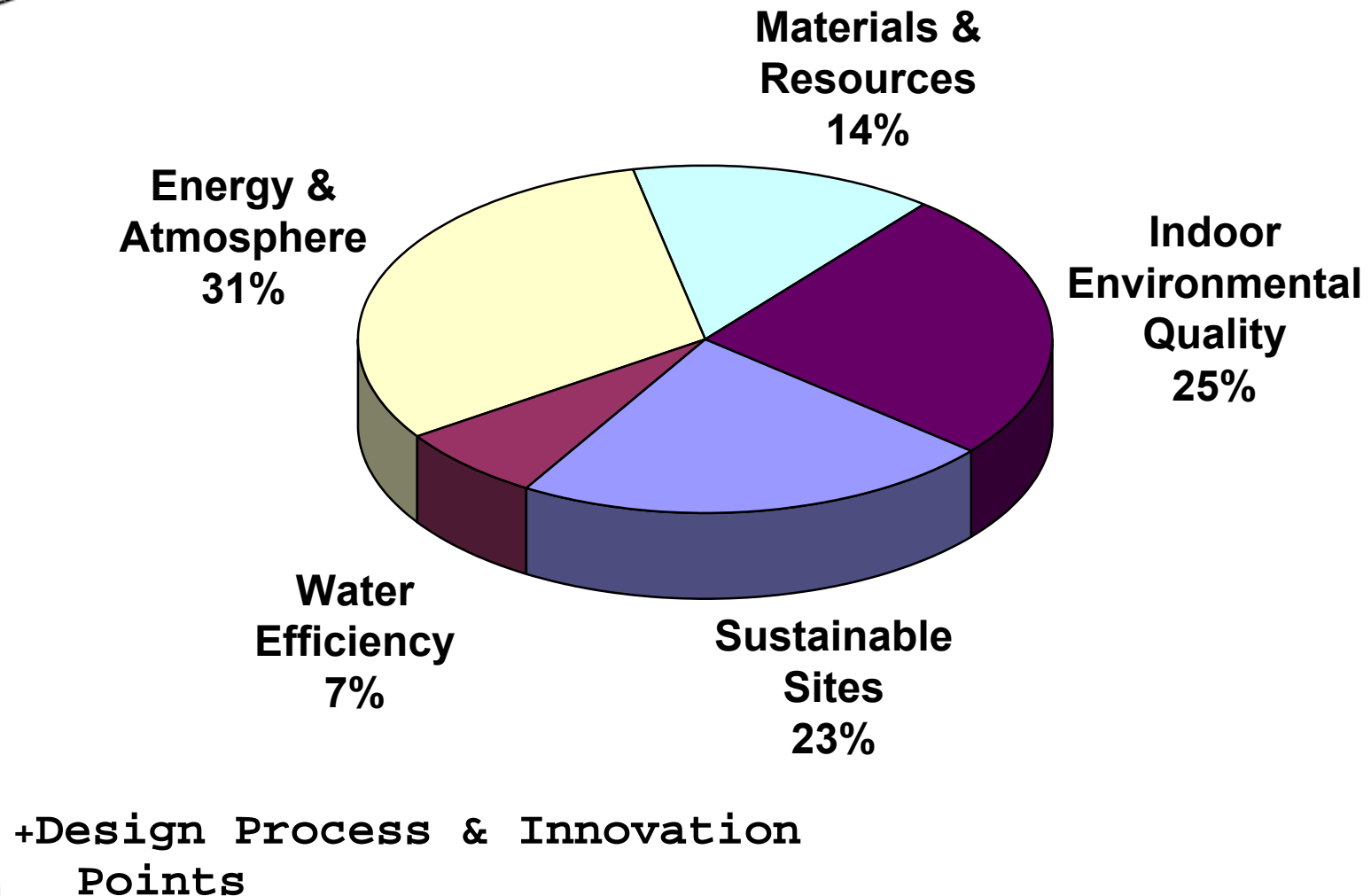


## LEED -EB Categories for Prerequisite and Credits

- Same as For Other LEED Ratings:
  - Sustainable Sites
  - Water Efficiency
  - Energy and Atmosphere
  - Materials and Resources
  - Indoor Environmental Quality
- Innovation and Design Process
- LEED™ Accredited Designer



# LEED-EB Point Distribution







# LEED -EB Point Distribution

## Points

16 Sustainable Sites

5 Water Efficiency

22 Energy and Atmosphere

10 Materials and Resources

18 Indoor Environmental Quality

71

4 Innovation and Design Process

1 LEED™ Accredited Designer

76 TOTAL Points Available





# Sustainable Sites LEED for Existing Buildings





# Sustainable Sites

## LEED for Existing Buildings

Credits	Point(s)
■ Erosion and Sedimentation Control	Required
■ Site Selection	1
■ Urban Redevelopment	2
■ Brownfield Redevelopment	NA
■ Environmentally Preferable Transportation	1-4
■ Reduced Site Disturbance	1-2
■ Stormwater Management	1-2
■ Reduce Heat Islands	1-2
■ Light Pollution Reduction	1
■ Green Site and Building Exterior Management	1-2



# Sustainable Sites

## LEED for Existing Buildings

### Credit Example

- SS Credit 1 Site Selection
  - Continue to use existing building
    - 1 point





# water use and water Efficiency LEED for Existing Buildings





# Water Use and Water Efficiency

## LEED for Existing Buildings

Credit	Point(s)
■ Minimum Water Efficiency	Required
■ Discharge Water Compliance	Required
■ Water Efficient Landscaping	1-2
■ Innovative Wastewater Technology	1
■ Water Use Reduction	1-2



# Water Use and Water Efficiency

## LEED for Existing Buildings

### Credit Example

- Water Credit 1: Water Efficient Landscaping
  - 1.1 Reduce water use for irrigation 50%
    - 1 Point
  - 1.2 Reduce water use for irrigation by 100%
    - 1 Point





# Energy and Atmosphere LEED for Existing Buildings





# Energy and Atmosphere

## LEED for Existing Buildings

Credit	Point(s)
■ Comprehensive Building Commissioning/ Retro Commissioning	Required
■ Minimum Energy Performance	Required
■ Ozone Protection	Required
■ Optimize Energy Performance	2-10
■ Renewable Energy	1-3
■ Continuous Commissioning and Maintenance	1-3
■ Additional Ozone Protection	1
■ Measurement & Verification	1-4
■ Green Power	1



# Energy and Atmosphere LEED for Existing Buildings Credit Example

- EA Credit 1 Optimize Energy Performance
  - 2-10 points





# Materials & Resources LEED for Existing Buildings





# Materials & Resources

## LEED for Existing Buildings

Credit	Point(s)
■ Waste Management	Required
■ Continued Existing Building Use	1
■ Construction Waste Management	1
■ Resource Reuse	1
■ Recycled Content	1
■ Local/Regional Materials	1
■ Rapidly Renewable Materials	1
■ Certified Wood	1
■ Occupant Recycling	1-3



# Materials and Resources

## LEED for Existing Buildings

### Credit Example

- MR Credit 8 Occupant Recycling
  - 1 -3 points





# INDOOR ENVIRONMENTAL Quality LEED for Existing Buildings





# Indoor Environmental Quality LEED for Existing Buildings

Credit	Point(s)
■ Minimum IAQ Performance	Required
■ Environmental Tobacco Smoke (ETS)	Required
■ <del>Control</del> Asbestos Removal or Encapsulation	Required
■ Carbon Dioxide (CO2) Monitoring	1
■ Increase Ventilation Effectiveness	1
■ Construction IAQ Management Plan	1
■ Low-Emitting Materials	Not in initial Pilot Version
■ Green Housekeeping	1-7
■ Controllability of Systems	1-2
■ Thermal Comfort	1-2
■ Daylighting and Views	1-3
■ Contemporary IAQ Practice	1





# Indoor Environmental Quality for Existing Buildings Credit Example

- IEQ Credit 1 Green Housekeeping
  - 1-7 points point



# LEED-EB Rating System

- 4 levels of certification
  - LEED™ Certified      28-35 points
  - Silver Level      36-42 points
  - Gold Level      43-56 points
  - Platinum Level 57-76 points





# LEED™ for Existing Buildings

## The Pilot Program

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# Schedule for LEED™ EB Pilot Program

- **Pilot Start:**
  - » January 2002
- **Pilot Objective**
  - Gain real world experience with pilot draft of LEED EB needed to prepare Ballot Draft of LEED EB
    - Refine LEED EB so it:
      - » Provides strong stretch goals for participants &
      - » Is practical to implement in existing buildings
- **LEED EB Launch:**
  - » March - November 2003





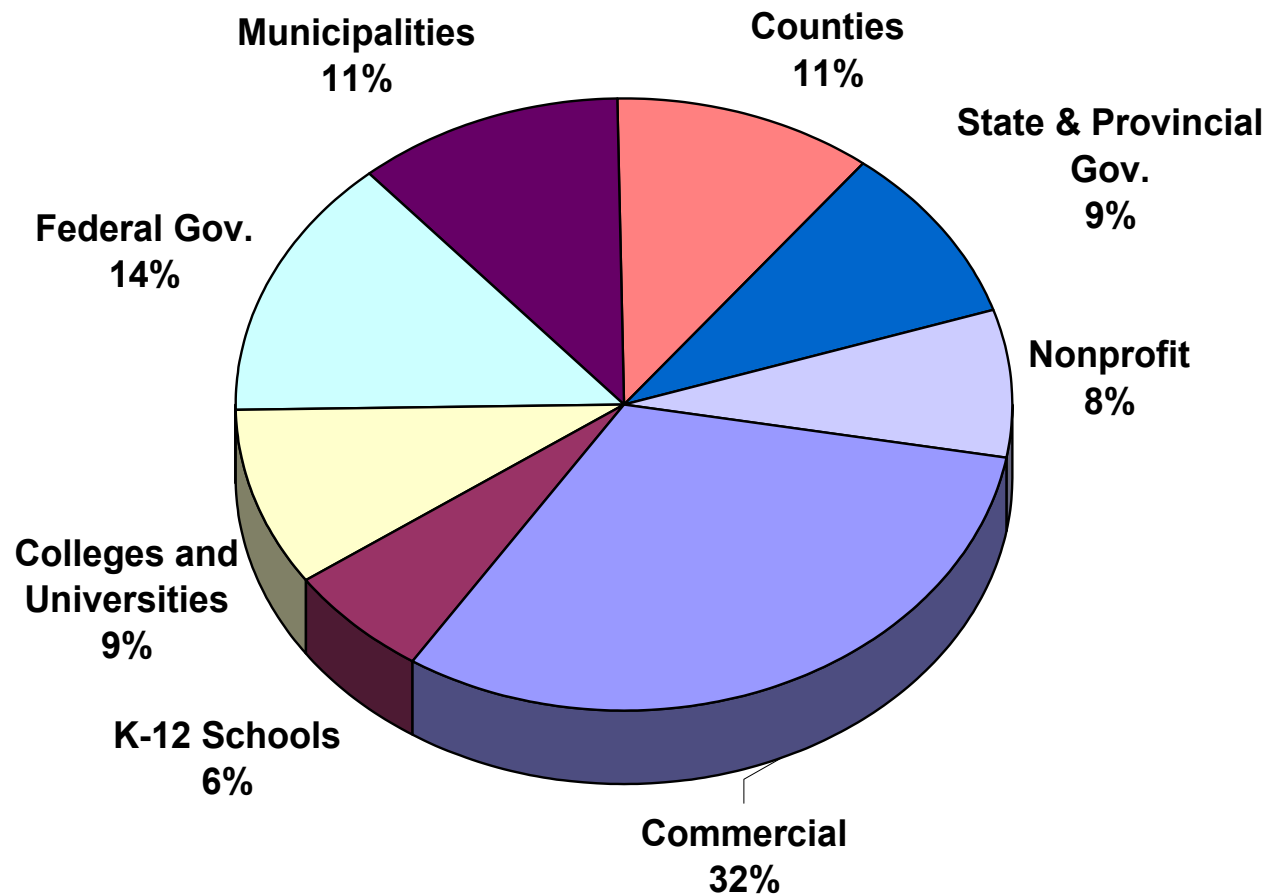
## Participants in the LEED™ EB Pilot

- 65+ buildings in pilot
  - 17+ million square feet of floor space
- 51+ organizations in pilot
  - These organizations own a total of 400 million square feet of floor space



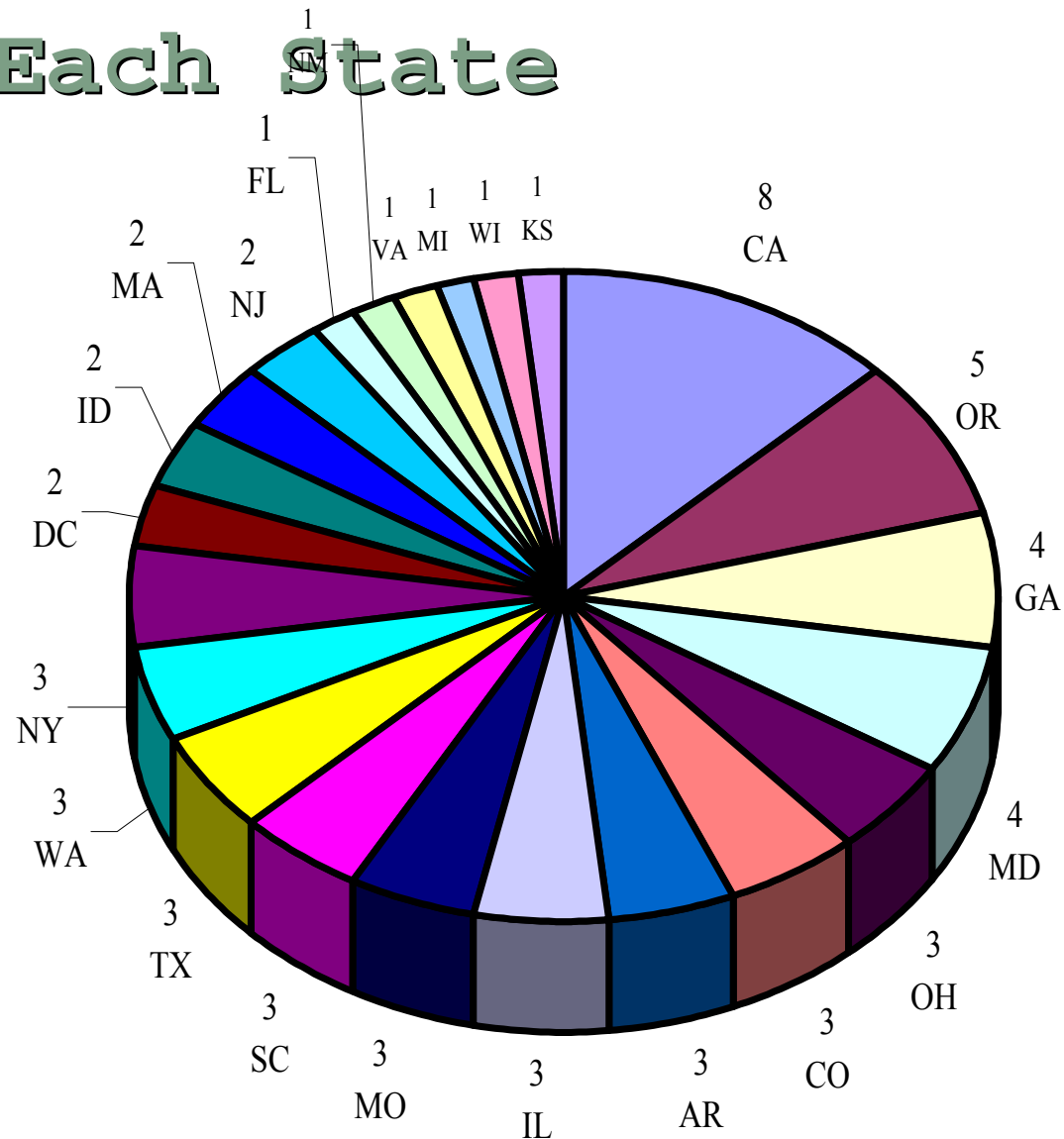
# LEED™ EB Pilot Projects

- Registered Projects by Type of Building Owner





# LEED™ EB Pilot - Registered Projects in Each State





# International Participants in LEED™ EB Pilot

- International Interest
  - Canada
    - Ontario





# Federal Participants in the LEED™ EB Pilot

- General Services Administration (GSA)
- Department of the Interior
- Department of Energy (DOE)
- Pentagon
- Department of Agriculture - Forest Service



# State Government Participants in LEED™ EB Pilot

- California
- Maryland
- Georgia



## Higher Education Buildings in the LEED™ EB Pilot

- Furman University, SC
- Emory University, GA
- California State University System, CA
- University of Cincinnati, OH
- University of Medicine & Dentistry, NJ
- Case Western Reserve University, OH



## County Participants in LEED™ EB Pilot

- Ada County, ID
- Canyon County, ID
- Jackson County, MO
- Yamhill County, OR
- King County, WA
- Prince George's County, MD





## City Participants in LEED™ EB Pilot

- Chicago, IL
- Orlando, FL
- Russellville, AR
- San Diego, CA



## Commercial Buildings in the LEED™ EB Pilot

- Office Buildings
- Warehouse
- Hotel
- Corporate Headquarters
- Brewery



## Nonprofit Organizations in the LEED™ EB Pilot

- Emerald Empire Art Association
- Lady Bird Johnson Wildflower Center
- Monterey Bay Aquarium
- National Geographic Society



# End of Introduction to LEED™ for EB







# Contacts for Additional Information

- US Green Building Council
  - [www.usgbc.org](http://www.usgbc.org)
  
- LEED for Existing Buildings
  - [www.usgbc.org/leed/leed-eb.htm](http://www.usgbc.org/leed/leed-eb.htm)
  - Michael Amy
    - LEED EB Committee Chair
    - President, Leonardo Academy
      - Email: [michaelamy@leonardoacademy.org](mailto:michaelamy@leonardoacademy.org)
      - Tel: 608-280-0255